

cumstances we have substituted the latter name for the one adopted in the paper.

The author also states that the animal described by Kölliker under the name of *Actinophrys Sol*, is the *A. Eichhornii*, Ehrb., but adds, that specimens of that species, which came under his notice after the printing of his paper had commenced, agreed exactly, in regard to the contractile vesicle, with those which formed the subject of his previous investigations. He did not observe it in the act of feeding.

He also states that *Arcella vulgaris* possesses as many as ten contractile vesicles, and that he was in error in ascribing only two of those organs to that Rhizopod.—TRANSLATOR.]

#### EXPLANATION OF PLATE VIII.

The letter *o* indicates the contractile vesicle throughout all the figures.

Fig. 1. *Actinophrys Sol*, in its ordinary sun-like form.

Fig. 2. *A. Sol*, in the act of division or conjugation, with two contractile vesicles.

Fig. 3. An *Actinophrys* in the act of feeding. A *Chlamidomonas* and an *Astasia* have just been enclosed by the slimy substance.

Fig. 4. An *Actinophrys* in the act of pushing out the slimy substance (*a* and *b*).

Figs. 5 & 6. Peculiar and unusual forms of *A. Sol*.

### PROCEEDINGS OF LEARNED SOCIETIES.

#### ROYAL SOCIETY.

January 18, 1855.—Sir Benjamin Brodie, Bart., in the Chair.

“On the Dots upon the Valves of the Diatomaceæ.” By J. W. Griffith, M.D., F.L.S.

In a former paper, it was stated that the markings or dots upon the valves of the Diatomaceæ, are the optical expressions of depressions existing upon the valves.

All those authors who have paid special attention to the Diatomaceæ, have considered the markings to denote cells; among these we find Ehrenberg\*, Kützing†, Ralfs‡, Smith§, and Quekett¶.

The evidence I adduced in regard to the more coarsely marked Diatomaceæ, as *Isthmia*, &c., being furnished with depressions and not cells, is, I believe, satisfactory and conclusive; and this view has been admitted in a paper since read before the Royal Society¶.

A different view has been taken of the nature of the *finer* markings, as those upon some species of *Gyrosigma*, by the author of the

\* Die Infusionsthierchen.

† Die Bacillarien, and Spec. Algarum.

‡ Annals of Nat. History, 1843.

§ British Diatomaceæ.

¶ Histological Catalogue of the College of Surgeons; and Lectures delivered before the College of Surgeons.

¶ Proceedings of the Royal Society, June 15, 1854.

paper last quoted, as by previous authors; and the object of this note is to direct attention to the support which the extended view argued for by me in the paper above referred to, viz. that the finer markings also correspond to depressions, derives from analogy.

The structure of the Diatomaceæ, and their modes of reproduction, are, as is well known, remarkable;—so much so, that these organisms have been claimed by botanists as members of the vegetable, and by zoologists as belonging to the animal kingdom. The preponderance of evidence is decidedly in favour of their vegetable nature; but, be this as it may, they must all be classed together,—they form a perfectly natural family. Hence we have a strong argument in favour of the markings upon their valves being identical, and as these are evidently depressions in the genera and species with coarsely marked valves (*Isthmia*, &c.), we should expect from analogy that the same would apply to those with finer markings. And this view receives further support, from the fact, that under varied methods of illumination, corresponding appearances are presented by the markings when viewed by the microscope, from those which are very large, as in *Isthmia*, through those of moderate and small size, as in the species of *Coscinodiscus*, down to those in which they are extremely minute, as in the species of *Gyrosigma*, &c. The angular (triangular or quadrangular) appearance assumed by the markings, arises from the light transmitted through the valves being unequally oblique. This may be readily shown in the more coarsely marked valves (*Isthmia*, *Coscinodiscus*), which present the true structural appearance when the light is reflected by the mirror in its ordinary position, and the spurious angular appearance when the light is rendered oblique by moving the mirror to one side.

#### ZOOLOGICAL SOCIETY.

December 13, 1853.—R. C. Griffith, Esq., in the Chair.

#### DESCRIPTIONS OF NEW SPECIES OF BUCCONIDÆ.

By PHILIP LUTLEY SCLATER, F.Z.S.

1. **BUCCO RADIATUS**, Sclater. *B. supra clare ferrugineus, nigro transversim radiatus; nucha et dorso summo pæne omnino nigris; corpore subtus et torque cervicali supra pallide fulvescenti-albis; capitis lateribus, pectore et ventris lateribus lineis nigris transversim radiatis; loris, gula, ventre medio crissoque albis; pedibus nigris; rostro plumbeo.*

Long. tota 8·0; alæ, 3·4; caudæ, 3·0.

*Hab.* in Nova Grenada. Mus. Britannico.

Obs. *B. chacuru* affinis, sed subtus radiatus et rostro plumbeo nec rubro; maculis auricularibus nullis.

2. **BUCCO STRIATIPECTUS**, Sclater. *B. corpore supra nigrescente, alis caudaque magis brunnescentibus, omnino rufescente transversim striatis; capite nigro fere immaculato; mento albo; gutture toto et collo undique fulvo-rufis; pectore et ventris*